

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application : Malcom B. Strandberg
Filed : Herewith
For : SYSTEM AND METHOD FOR PROVIDING AN
AUTOMATIC TELEPHONE CALL BACK TO A
TELEPHONE LINE BEING USED TO ACCESS A
COMPUTER NETWORK
Attorney's Docket : DAVOX-144XX

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I hereby certify that the following items are being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and as addressed to BOX PATENT APPLICATION, Commissioner of Patents and Trademarks, Washington, D.C. 20231:

U.S. Patent application of Malcom B. Strandberg, entitled SYSTEM AND METHOD FOR PROVIDING AN AUTOMATIC TELEPHONE CALL BACK TO A TELEPHONE LINE BEING USED TO ACCESS A COMPUTER NETWORK, consisting of

Specification includes:

PP 1 through 17 of Detailed Description;
PP 18 through 22 of claims 1 through 14; and
PP 23 of Abstract

Drawings as follows (one copy informal): First sheet of Fig. 1; Second sheet of Fig. 2; and Third sheet of Fig. 3.

A Declaration and Power of Attorney, together with check no. 5079 in the amount of \$435.00 to cover the filing fee of \$395.00 and the assignment recordation fee of \$40.00 and a cover letter in triplicate; a Verified Statement claiming small entity status; and an Assignment of the invention and application for recording of Malcom B. Strandberg to Davox Corporation comprising 2 pages with a cover letter in triplicate; and an additional \$40.00 included in check number 5079 to cover the Assignment recording fee.

The above items are deposited with signatures and dated by the filing attorney as appropriate.

Edith Ann Bettis

Edith Ann Bettis

Signature of Person Mailing

A

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Date: April 9, 1998

BOX PATENT APPLICATION

Honorable Commissioner of Patents and Trademarks

Washington, D.C. 20231

Attorney Docket No.: DAVOX-144XX

04/09/98
0519
Submitted herewith for filing is the patent application of:

Inventor: Malcom B. Strandberg

Title: SYSTEM AND METHOD FOR PROVIDING AN AUTOMATIC TELEPHONE CALL BACK TO A
TELEPHONE LINE BEING USED TO ACCESS A COMPUTER NETWORK

Enclosed are:

- [x] Declaration and Power of Attorney (original signature)
[x] An Assignment of the invention to: Davox Corporation, including the Assignment
Recordation Cover Sheet
[] A Certified copy of a _____ application
[x] A Verified statement re small entity status (\$1.9 and \$1.27)- Small Business Concern
[] Citation of Art including 0 references
[x] 3 sheets of informal drawings (one set)
[X] Other: Certificate of Express Mail
[] Continuation-in-part application of application Serial No. _____,
filed _____
[] _____ is hereby appointed Associate Attorney by:
Registration No.:

Attorney of Record: Daniel J. Bourque
Registration No.: 35,457

CLAIMS FILED:	MINUS BASE:	EXTRA CLAIMS:	RATE:	BASIC FEE:
				\$790.00
Independent 2	- 3	=	x \$82.00 =	
Total 14	- 20	=	x \$22.00 =	
[] Multiple Dependent Claims (1st presentation)			+ \$270.00 =	
SUBTOTAL FILING FEE				\$395.00
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SUBMIT IN TRIPLICATE

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Registration No.: 36,384

SYSTEM AND METHOD FOR PROVIDING
AN AUTOMATIC TELEPHONE CALL BACK TO A TELEPHONE LINE
BEING USED TO ACCESS A COMPUTER NETWORK

FIELD OF THE INVENTION

The present invention relates to telephony systems and more particularly, to a system and method for providing an automatic telephone call back to a telephone line being used to access a computer network.

BACKGROUND OF THE INVENTION

Telephony call centers which place outbound calls and receive inbound calls (often called call campaigns) typically utilize a telephone call center management system to help automate much of the process. The telephone call center management system controls, among other functions, the dialing of outbound telephone numbers from a predefined, sorted call list having a number of customer call records within each call list. These customer call lists may be downloaded from a call record source, such as a host computer, to the telephone call center management system once during a 24 hour period, often during the non-busy early hours of the morning, or may be continuously and dynamically downloaded for dynamic updating of call records within a call list. The telephone call center management system automatically connects

1 outbound calls and inbound calls to available operators or agents
2 for handling.

3 In the past, the overwhelming majority of customers or
4 potential customers (collectively "inquiring parties") contacted
5 the call center by telephone to obtain information. These
6 inquiring parties may be calling for many different reasons. For
7 example, the inquiring parties may want information on the
8 company's products or services, or may want information on their
9 existing account with the company. Often there are no agents
10 available at the company to provide the requested information, and
11 the inquiring party must wait on hold for an available agent,
12 receive the information by way of recorded messages, or call back
13 at another time.

14 With the advent of global or large scale computer networks
15 such as the Internet (also known as the World Wide Web), it is now
16 possible for companies to provide information "on-line" that is
17 accessible by its customers or potential customers via a data
18 terminal (e.g. a PC) connected to the network. A company may
19 provide "on-line" information about products and/or services that
20 might be of interest to an inquiring party, as well as information
21 on the status of a party's account. One way of providing on-line
22 information is with hypertext documents on the World Wide Web
23 created using Hypertext Markup Language (HTML). By browsing
24 through these "web pages" using the data terminal, the inquiring

1 party can obtain information in the form of text, graphics and/or
2 sound.

3 Although the Internet or other such computer network provides
4 an additional medium for communicating information to inquiring
5 parties, a party may still want assistance from a "live" agent.
6 Some "web pages" allow inquiring parties to request a call back by
7 including a field for the inquiring party to provide a telephone
8 number or other such information related to contacting the party
9 with a "live" agent. These requests are typically transmitted to
10 the company, for example, in the form of electronic mail and
11 stored in a file. The telephone numbers and other relevant
12 information are then manually entered into an existing telephone
13 call center management system. The call back is then made at a
14 later, less convenient time using the existing telephony system,
15 e.g., by having an agent manually call back or by automatically
16 calling back and placing the party on hold to wait for an
17 available agent. If the inquiring party needs assistance, e.g.,
18 with an account, a product/service, or the like, the existing
19 systems are unable to provide that assistance at the time
20 requested by the inquiring party.

21 An immediate call back is often the ideal time for responding
22 to a request by the inquiring party. The inquiring party is
23 interested in this particular product, service, or information at
24 the moment the request is made and is likely to be proximate to a

1 telephone. Providing an immediate connection to an agent,
2 however, presents an additional problem. One common way to
3 connect to the Internet / World Wide Web is by using a PC with a
4 modem that dials in to an Internet Service Provider (ISP) over the
5 Public Switched Telephone Network (PSTN). If the only available
6 telephone line is being used for connecting to the network, an
7 immediate call back may not be possible since the inquiring party
8 is likely to still be connected to the network (i.e., "on-line")
9 when the attempted call back is made. When dialing outbound
10 calls, existing telephony systems will typically treat a busy
11 signal as a failed attempt and will schedule a recall at a later
12 point in time. Thus, the inquiring party will not receive the
13 assistance as soon as possible after the request has been made.

14 As the usage of the Internet and other global computer
15 networks increases, an increasing number of individuals will want
16 to use this medium of communication to contact companies for
17 requesting information. Existing telephone call center management
18 systems are not integrated with global computer networks in a
19 manner that allows a company to automatically and efficiently
20 respond to requests made over the global computer network by
21 inquiring parties with call backs at the most convenient time.

22 Accordingly, what is needed is an system and method for
23 providing an automatic and immediate telephone call back to an
24 inquiring party who has provided information to a company from a

1 data terminal connected across a computer network. What is also
2 needed is an automatic call back system and method capable of
3 connecting to the inquiring party even if the inquiring party is
4 using the only available telephone line to access the computer
5 network.

6 SUMMARY OF THE INVENTION

7 The present invention features a system and method for
8 providing a telephone call back to a telephone line that is being
9 used to access a computer network. The call back is made based
10 upon a request transmitted over the computer network from a data
11 terminal located at a remote location and connected to the
12 computer network using the telephone line. The request includes
13 call back data including at least a telephone number to be called.

14 The system comprises; a computer network interface, connected
15 to the computer network, for interfacing with the computer network
16 and receiving the request over the computer network, for
17 identifying the call back data, and for storing the call back data
18 including the telephone number in a call back file; and an
19 automated dialer system, responsive to the call back file. The
20 automated dialer system includes a call back campaign manager,
21 for retrieving the telephone numbers in the call back file; a
22 call scheduler, responsive to the call back campaign manager, for
23 scheduling at least one of the telephone numbers for immediate

1 dialing; a predictive dialer, responsive to the ordered telephone
2 numbers, for initiating dialing of each of the ordered telephone
3 numbers as scheduled over telephone lines, for monitoring a
4 status of the telephone lines, and for connecting an answered
5 call to a telephone of an available agent coupled to the
6 automated dialer system; and a re-dial script, responsive to the
7 call back campaign manager, for directing the predictive dialer
8 to redial a busy telephone number when the predictive dialer
9 detects a busy signal after dialing the busy telephone number.

10 The method comprises the steps of: receiving the request
11 transmitted from the terminal at the remote location; identifying
12 the call back data including at least one telephone number to be
13 dialed; placing the call back data into a call back file;
14 retrieving telephone numbers to be dialed from the call back file;
15 scheduling at least one of the telephone numbers for immediate
16 dialing; automatically dialing the telephone number scheduled for
17 immediate dialing over a telephone line; monitoring the telephone
18 line to detect a busy signal; and redialing the telephone number
19 when the busy signal is detected.

20 The preferred method continuously redials the busy telephone
21 numbers until an answer is detected. When an answer is detected,
22 the method connects the telephone line to an available agent. If
23 no connection is made, the method adds the unanswered telephone
24 numbers to a further call campaign.

1 BRIEF DESCRIPTION OF THE DRAWINGS

2 These and other features and advantages of the present
3 invention will be better understood by reading the following
4 detailed description, taken together with the drawings wherein:

5 FIG. 1 is a schematic block diagram of an automated telephone
6 call back system used with the global computer network and
7 telephone network, according to the present invention;

8 FIG. 2 is a schematic block diagram of the automated
9 telephone call back system, according the present invention; and

10 FIG. 3 is a flow chart illustrating the method of providing
11 an automatic call back, according to the present invention.

12 DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

13 The automated telephone call back system 10, FIG. 1,
14 according to the present invention, provides an automatic
15 telephone call back to an inquiring party (e.g. a customer or
16 potential customer) who has requested assistance from a "live"
17 agent 12a-12c at a call center in a company or other organization.
18 The request is typically made from a remote location 14 by way of
19 a terminal 16, such as a PC, connected to a computer network 20,
20 such as the Internet / World Wide Web. The remote location 14
21 also typically includes a telephone 18 for receiving the call
22 back, as will be described in greater detail below.

1 In the exemplary embodiment, the terminal 16 at the remote
2 location 14 is connected to the computer network 20 (e.g., the
3 Internet / World Wide Web) using a telephone network 22. To
4 establish the connection to the computer network 20 using the
5 telephone network 22, the computer terminal 16 at the remote
6 location 14, such as the inquiring party's residence, uses a modem
7 24 connected to a telephone line 26 into the telephone network 22.
8 The modem 24 can be connected directly to the telephone line 26 or
9 can be connected through the telephone 18 at the location 14. The
10 computer terminal 16 accesses the computer network 20 by using the
11 modem 24 to dial in to a computer network server 28, for example,
12 an internet server maintained by an Internet Service Provider
13 (ISP), which provides an interface between the telephone network
14 22 and the computer network 20. The present invention
15 contemplates other types of "dial-up" connections to the computer
16 network using, for example, Integrated Services Digital Network
17 (ISDN), a cellular telephone network, or other alternatives to
18 conventional telephone connections.

19 For a "dial up" type connection, the same telephone line 26
20 is often used by both the telephone 18 to receive calls and the
21 computer terminal 16 to access the computer network 20. Thus, the
22 telephone line 26 may not be available for a call back to the
23 telephone 18 if the telephone line 26 is still in use to access
24 the computer network 20. The present invention provides a system

1 and method for connecting to the telephone 18 over the telephone
2 line 26 when the same telephone line 26 is used both for the
3 telephone 18 and the terminal 16, as will be described in greater
4 detail below.

5 The inquiring party typically makes the request after making
6 an initial inquiry for information, such as product/service or
7 customer account information. This information is typically
8 provided by an information server 30 accessed by the inquiring
9 party at the remote location 14 by way of the terminal 16
10 connected to the computer network 20. The request data is
11 transmitted over the computer network 20 to the automated
12 telephone call back system 10 either directly or by way of the
13 information server 30. The automated telephone call back system
14 10 processes the request and schedules a call back immediately
15 following the request or at a preferred time specified by the
16 inquiring party.

17 In the exemplary embodiment, the computer network 20 is the
18 Internet / World Wide Web, although the present invention
19 contemplates other types of computer networks that are accessed by
20 "dial up" connections over the telephone line 26. In the
21 exemplary embodiment, the information server 30 is a web server
22 that presents the information in the form of "web pages" including
23 on-line forms for entry of data pertaining to the request (e.g.,
24 telephone number, name, account number). In this example, the

information server 30 includes a computer that generates hypertext documents using Hypertext Markup Language (HTML) containing the information to be accessed by the inquiring party. The computer terminal 16 is used by the inquiring party to access the information and includes a user interface to display the hypertext documents or "web pages" provided by the information server 20 in the form of text, graphics, pictures, audio, and data (text) entry fields.

If assistance is needed from a live agent, a document is provided by the information server 30 that includes a data entry form requesting the data necessary to make a call back for assistance, e.g. name, telephone number, address, account number, a type of product/service, and the like. The data is then transmitted from the computer terminal 16 to the automated telephone call back system 10 over the computer network 20. The creation of data entry fields and the transmission of the entered data to the automated telephone call back system can be performed by a Common Gateway Interface (CGI) script that runs on the server 30 or a JAVA language program that runs on the computer terminal 16. The automated call back system 10 processes the request, and based upon the request data, a call back can be made to the telephone 18 at the location 14 or any other telephone number specified by the inquiring party. In addition to computer terminal 16, the present invention contemplates other devices

1 capable of receiving and transmitting information over the
2 Internet / World Wide Web or other computer networks.

3 According to the preferred embodiment, the automated
4 telephone call back system 10, Fig. 2, includes an automated
5 dialer system 40, for processing outbound call campaigns, and a
6 computer network interface 42, for providing an interface or
7 gateway between the automated dialer system 40 and the computer
8 network 20 over which the call back request is made. According to
9 one example, the automated dialer system 40 is implemented as part
10 of a telephony system, such as the type sold under the name
11 UNISON® by Davox Corporation, Westford, Mass. This type of
12 telephony system is disclosed in greater detail in U.S. Patent No.
13 5,592,543 issued January 7, 1997, assigned to the assignee of the
14 present application and incorporated herein by reference. In the
15 telephony system, the agents 12a-12c each have a headset 43a-43c
16 or other voice processing device and a computer terminal 41a-41c
17 or other type of data input/output device connected to the
18 automated dialer system 10. The computer network interface 42,
19 the automated dialer system 40, the agent terminals 41a-41c, and
20 other components of the system 10 are connected with a data path
21 44, such as an ethernet network.

22 The computer network interface 42 receives the call back data
23 and other inquiring party data transmitted over the computer
24 network 20, creates a call back record 46 and routes the call back

record 46 (e.g., telephone number, and time to call) to a call manager. The call back records 46 can be dynamically created and sent to the call campaign manager 50 as call back requests are received by the computer network interface 42. One example of a system that dynamically updates call records in a call list is disclosed in greater detail in U.S. Patent Application Serial No. 08/635,028 (Attorney Docket No. Davox-138XX) filed April 19, 1996, assigned to the assignee of the present invention and incorporated herein by reference. Other data pertaining to the inquiring party (e.g., name, address, account number, products/services of interest), may be stored in an inquiring party database 48. If the inquiring party has been previously contacted (e.g., an existing customer), additional data may be downloaded to the inquiring party database 48 from a host (not shown) coupled to the automated dialer system 40.

The automated dialer system 40 then processes the call records 46 as an outgoing telephone call campaign. The call campaign manager 50 manages the outbound dialing of the telephone numbers in the call back records 46. The automated dialer system 40 also includes a predictive dialer 52 that automatically dials the telephone numbers within the call records 46 over one of the telephone (trunk) lines 54. When an answer is detected, the call is connected to a headset 43a-43c of the available agent, and information pertaining to the called party can be routed by the

1 automated dialer system 40 from the inquiring party database 48 to
2 the terminal 41a-41c of the available agent.

3 In the preferred embodiment, the automated dialer system 40
4 further includes a call scheduler 56, responsive to the call
5 campaign manager 50, for determining the optimum time to call each
6 of the numbers and for arranging the call records 46 accordingly.
7 One type of call scheduler 56 is typically implemented as a
8 software program and is described in greater detail in U.S. Patent
9 Application No. 08/699,292 entitled "Call Record Scheduling System
10 And Method" assigned to the assignee of the present invention and
11 incorporated herein by reference. The call scheduler 56 will
12 prioritize the call records based upon call back data specified by
13 the inquiring party. If immediate call back is requested or if no
14 call back time is specified, the call records are repeatedly
15 called upon until no longer busy since the inquiring party is
16 likely to be proximate to the telephone.

17 The automated dialer system 40 also includes a dial script
18 58, responsive to the call campaign manager 50, for controlling
19 the dialing of the telephone numbers in the call file 46 when a
20 busy signal is received. The dial script 58, also referred to as
21 a telephony application client (TAC), is typically implemented as
22 a software program. Examples of TACs used in outbound dialing are
23 disclosed in U.S. Patent Application Serial No. 08/252,338
24 entitled "Universal Telephony Application Client", assigned to the

1 assignee of the present application and incorporated herein by
2 reference. The call campaign manager 50 initiates the dial script
3 58 when the call scheduler 56 schedules call backs for immediate
4 dialing.

5 The predictive dialer 52 preferably includes a call status
6 monitor 60 that monitors the status of the call progress signals
7 on the telephone lines 54. The dial script 58 is responsive to
8 the call status monitor 60, and when a busy signal is detected by
9 the call status monitor 60, the dial script 58 directs the
10 predictive dialer 52 to immediately (or within a short period such
11 as one minute) re-dial the busy telephone number. The dial script
12 58 thus causes immediate call backs to be continuously re-dialed
13 when a busy signal is detected, allowing a call back to be made as
14 soon as possible after a party disconnects from the computer
15 network 20

16 The predictive dialer 52 preferably utilizes a call pacing
17 algorithm which is designed to optimize the time utilization by
18 the telephone call agents. A description of one type of
19 predictive dialer and call pacing algorithm is disclosed in U.S.
20 Patent No. 5,295,184 assigned to the assignee of the present
21 application and incorporated herein by reference. The predictive
22 dialer 52 controls the automatic dialing of the call back numbers
23 as well as the dialing of numbers in other active outbound
24 campaigns to minimize the amount of time a called party will have

1 to spend on hold.

2 The automatic telephone call back method 300, Fig. 3,
3 according to the present invention, begins when the computer
4 network interface 42 of the automated telephone call back system
5 40 receives a request for assistance from an agent, step 312. The
6 call back data (e.g., the telephone numbers to be dialed and call
7 back time) is identified by the computer network interface 42,
8 step 314, and formatted into call back records 46, step 316. The
9 call back records 46 are sent to the automated dialer system 40
10 and are batched into a call back list, step 318, and, based upon
11 other call back data transmitted by the inquiring party,
12 determines the most convenient time for a call back and schedules
13 the call backs accordingly, step 320. Unless the inquiring party
14 specifies a different time, an immediate call back will be
15 scheduled, since the inquiring party is likely to be proximate the
16 telephone.

17 The telephone numbers scheduled for immediate call back are
18 then immediately and automatically dialed, step 322. The
19 telephone lines 54 over which the call is being made are monitored
20 to determine whether a connection is made, step 324. If a busy
21 signal is detected, step 326, the dial script 58 instructs the
22 dialer 52 to re-dial the number, step 328. The dialer 52
23 continuously re-dials the number, until an answer is detected,
24 step 330, or until a determination is made that callee is no

1 longer there (ring no answer, or answer machine detected), step
2 332, and the call is aborted or rescheduled for later or the end
3 of campaign is reached (all agents logged off).

4 When an answer is detected 330, the inquiring party is
5 connected to an available agent, step 334, by transferring the
6 voice to the agent's telephone 43a-43c and by transferring any
7 other relevant data pertaining to the called party to the agent's
8 terminal 41a-41c. If no connection is made, the telephone number
9 is scheduled to be called at a later time in a future call
10 campaign, step 336.

11 Accordingly, the automated telephone call back system of the
12 present invention provides an automatic call back to an inquiring
13 party (e.g., customer or potential customer) in response to a
14 request made by the inquiring party while accessing information
15 over a computer network using a telephone line. The automated
16 dialer system has the capacity to efficiently process the call
17 backs by scheduling the calls as the most convenient time (e.g.
18 immediately or at another time specified by the called party), by
19 automatically dialing, and by pacing the calls so that an agent
20 capable of handling the call will be immediately available when a
21 connection is made. Moreover, if the inquiring party makes the
22 request while connected to a computer network using the only
23 available telephone line, the present invention is capable of
24 contacting the inquiring party as soon as possible after the

1 inquiring party has disconnected and the telephone line becomes
2 available.

3 Modifications and substitutions by one of ordinary skills in
4 the art are considered to be within the scope of the present
5 invention which is not to be limited except by the claims which
6 follow.

7 What is claimed is:

CLAIMS

1 1. A system for providing a telephone call back to a
2 telephone line that is being used to access a computer network,
3 wherein said call back is made based upon a request transmitted
4 over said computer network from a data terminal located at a
5 remote location and connected to said computer network using said
6 telephone line, said request including call back data including at
7 least a telephone number to be called, said system comprising:

8 a computer network interface, connected to said computer
9 network, for interfacing with said computer network and receiving
10 said request over said computer network, for identifying said call
11 back data, and for storing said call back data including said at
12 least one telephone number in a call back file; and

13 an automated dialer system, responsive to said call back
14 file, said automated dialer system including:

15 a call back campaign manager, for retrieving said
16 telephone numbers in said call back file;

17 a call scheduler, responsive to said call back campaign
18 manager, for scheduling at least one of said telephone
19 numbers for immediate dialing;

20 a predictive dialer, responsive to said ordered
21 telephone numbers, for initiating dialing of each of said
22 ordered telephone numbers as scheduled over telephone lines,
23 for monitoring a status of said telephone lines, and for

24 connecting an answered call to a telephone of an available
25 agent coupled to said automated dialer system; and
26 a re-dial script, responsive to said call back campaign
27 manager, for directing said predictive dialer to redial a
28 busy telephone number when said predictive dialer detects a
29 busy signal after dialing said busy telephone number.

1 2. The system of claim 1 wherein said predictive dialer
2 includes a call pacer that paces dialing of said telephone numbers
3 according to a call pacing algorithm.

1 3. The system of claim 1 wherein said computer network
2 interface interfaces said computer network to agent terminals
3 connected to said automated dialer system.

1 4. The system of claim 1 wherein said request further
2 includes customer account identifying indicia.

1 5. The system of claim 1 wherein said call back data
2 further includes a time to call back.

1 6. The system of claim 5 wherein said call scheduler is
2 responsive to said time to call back, for scheduling dialing of
3 said at least one telephone number at approximately said time to

4 call back.

1 7. The system of claim 1 wherein said call scheduler
2 schedules all of said telephone numbers for immediate dialing.

1 8. The system of claim 1 wherein said call back data is
2 transmitted over said global computer network using a CGI script.

1 9. The system of claim 1 wherein said call back data is
2 transmitted over said global computer network using a JAVA
3 language script.

1 10. A method for providing a telephone call back to a
2 telephone line that is being used to access a computer network,
3 wherein said call back is made based upon a request transmitted
4 over said computer network from a data terminal located at a
5 remote location and connected to said computer network using said
6 telephone line, said call back data including at least a telephone
7 number to be dialed, said method comprising the steps of:

8 receiving said request transmitted from said terminal at said
9 remote location;

10 identifying said call back data including at least one
11 telephone number to be dialed;

12 placing said call back data into a call back file;

13 retrieving telephone numbers to be dialed from said call back
14 file;

15 scheduling at least one of said telephone numbers for
16 immediate dialing;

17 automatically dialing said at least one of said telephone
18 numbers scheduled for immediate dialing over a telephone line;

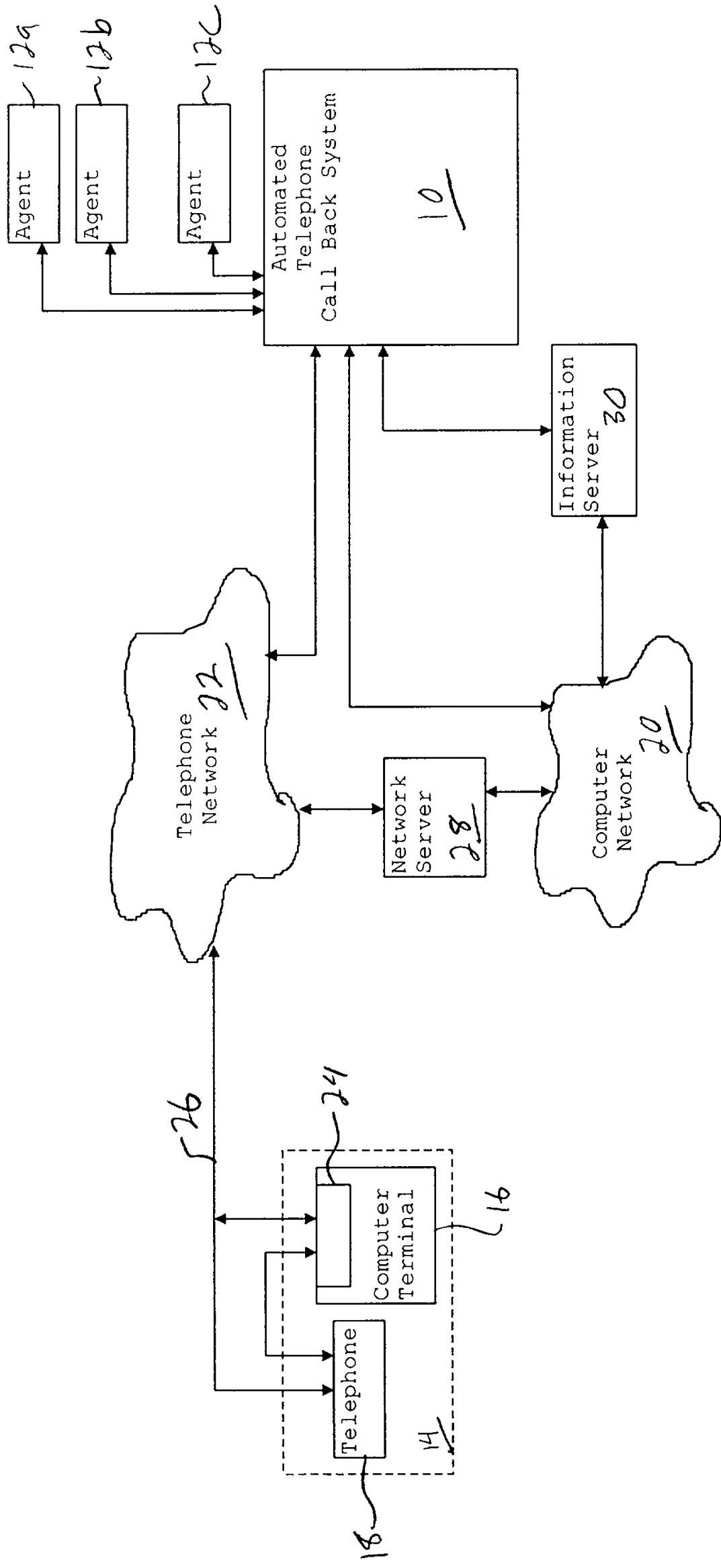
19 monitoring said telephone line to detect a busy signal; and

20 redialing said at least one of said telephone numbers when
21 said busy signal is detected.

1 11. The method of claim 10 wherein said step of redialing
2 includes continuously redialing said at least one of said

ABSTRACT

A system and method provides an automatic telephone call back to a telephone line being used to access a computer network. A call back is made in response to a request by an inquiring party at a remote data terminal connected to the computer network using a telephone line. The inquiring party provides call back data at the data terminal connected to a computer network, such as the Internet, by way of a telephone line. The call back data is transferred over the computer network to the automated telephone call back system. A computer network interface at the automated back system provides a gateway between the computer network and an automated dialer system. The automated dialer system retrieves telephone numbers provided by the inquiring parties, schedules the call backs, and automatically dials the telephone numbers using a predictive dialer. If a telephone number is scheduled for an immediate call back, the call status is monitored by the dialer to detect a busy signal. If a busy signal is detected, a redial script instructs the predictive dialer to continuously redial the number until an answer is detected, i.e., the inquiring party disconnects from the computer network and the telephone line becomes available. If a connection is made, the dialer will automatically connect the called party to an available agent, and any additional information about the called party, if available, will be transmitted to the agent's terminal by the call back manager.



7
5
11

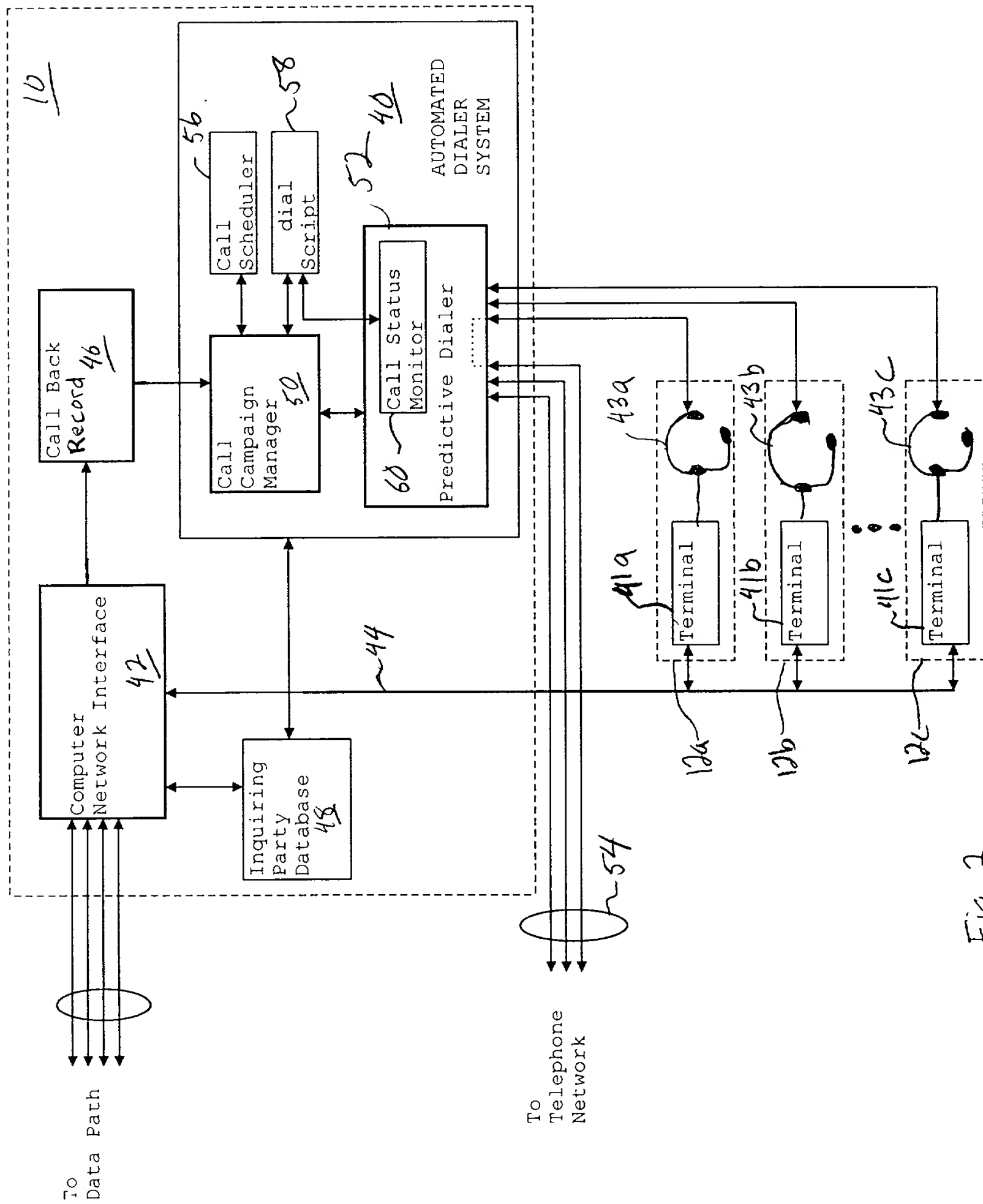


Fig. 2

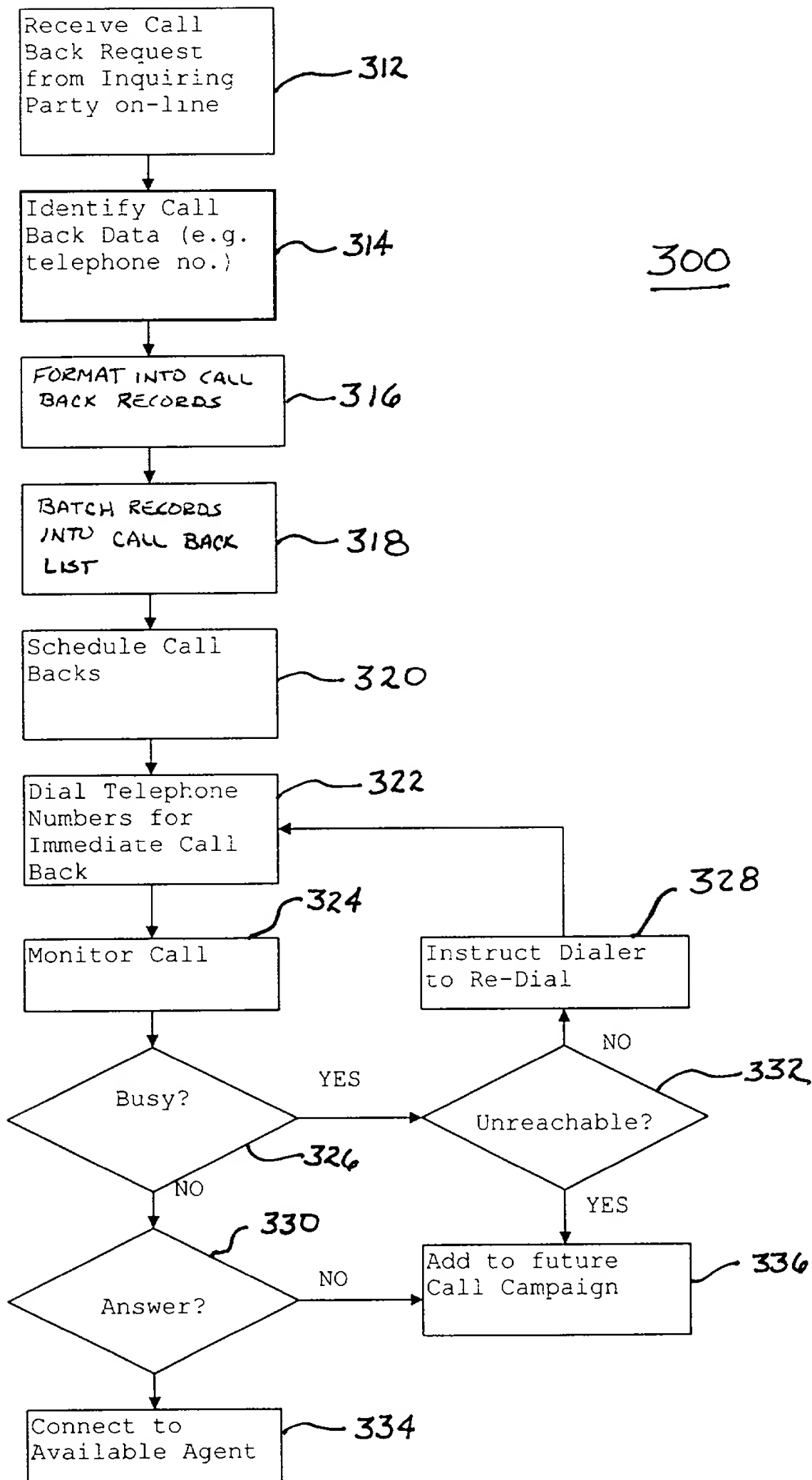


FIG. 3

DECLARATION AND POWER OF ATTORNEY

As a below-named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name;

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

SYSTEM AND METHOD FOR PROVIDING AN AUTOMATIC TELEPHONE CALL BACK TO A TELEPHONE LINE BEING USED TO ACCESS A COMPUTER NETWORK

the specification of which (check one):

☒ is attached hereto. ☐ was filed _____ as Serial No. _____;
amended on _____ (if
applicable).

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations §1.56(a).

I hereby claim foreign priority benefits under Title 35 USC 119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

<u>Prior Foreign Application(s)</u>		<u>Date Filed</u>	<u>Priority Claimed</u>
[] []			
(Number)	(Country)	(Day/Month/Year)	Yes No
[] []			
(Number)	(Country)	(Day/Month/Year)	Yes No

I hereby claim the benefit under Title 35 USC 120 of any United States application(s) listed below and insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35 USC 112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, §1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

(Application Serial No.)	(Filing Date)	(Patented/pending/abandoned)
(Application Serial No.)	(Filing Date)	(Patented/pending/abandoned)

I hereby claim the benefit under Title 35 USC 119(e) of any United States provisional application(s) listed below:

(Application Serial No.) (Filing Date) (Patented/pending/abandoned)

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) to prosecute this application and transact all business connected therewith in the Patent and Trademark Office, and to file with the USRO any International Application based thereon.

Daniel J. Bourque, 35,457

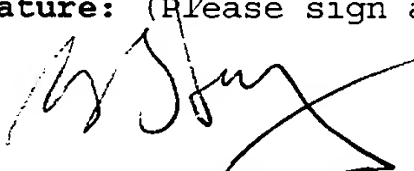
Kevin J. Carroll, 36,384

James T. Sullivan, 36,288

Address all correspondence to:

Law Offices
Daniel J. Bourque, P.A.
835 Hanover Street, Suite 303
Manchester, NH 03104
Telephone: (603) 623-5111
Facsimile: (603) 624-1432

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full Name of Sole/First Inventor: Malcom B. Strandberg		
City of Residence Cambridge	State or Country MA	Country of Citizenship USA
Post Office Address 65 Blanchard Road	City Cambridge	State or Country Zip Code 02138
Signature: (Please sign and date in permanent ink.) X 		Date signed: X 4/7-98

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: Malcom B. Strandberg

ATTORNEY

DOCKET NO.: DAVOX-144XX

SERIAL NO.:

EXAMINER:

FILED:

GROUP NO.:

PATENT NO.:

ISSUED:

ENTITLED: SYSTEM AND METHOD FOR PROVIDING AN AUTOMATIC TELEPHONE CALL BACK TO A TELEPHONE LINE BEING USED TO ACCESS A COMPUTER NETWORK

VERIFIED STATEMENT AS SMALL ENTITY

Honorable Commissioner of Patents and Trademarks
Washington, D.C. 20231

Sir:

THE UNDERSIGNED DECLARE(S) :

Exclusive rights in the above-identified invention reside in the "small entity(ies)" defined and named below, and "small entity" fees are appropriate. Qualification as a small entity is based upon the appropriately checked statements below:

☐ **INDEPENDENT INVENTOR(S)**

The below-signing independent inventor(s) has (have) not assigned, granted, conveyed or licensed, and is (are) under no obligation under contract or law to assign, grant, convey or license any rights in the invention to any person who could not likewise be classified as an independent inventor under 37 CFR 1.9(c) if that person had made the invention, or to any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e).

Attorney

Docket No.: DAVOX-144XX

[X] SMALL BUSINESS CONCERN

The below-identified small business concern qualifies as a small business as defined in 13 CFR 121.3-18, and reproduced in 37 CFR 1.9(d), for purposes of paying reduced fees under Section 41(a) and (b) of Title 35, in that the number of employees, including those of its affiliates, which does not exceed 500 persons, and it has not assigned, granted, conveyed or licensed, and is under no obligation under contract or law to assign, grant, convey or license, any rights in the invention to any person who could not be classified as an independent inventor if that person had made the invention, or to any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e).

Concerns are affiliates of each other when, either directly or indirectly, one concern controls or has the power to control the other, or a third party controls or has the power to control both. The number of employees of the business concern is the average over the fiscal year of the persons employed during each of the pay periods of the fiscal year. Employees are those persons employed on a full-time, part-time or temporary basis during the previous fiscal year of the concern.

[] NONPROFIT ORGANIZATION (Check additional applicable box.)

The below-identified nonprofit organization qualifies as a small entity under 37 CFR 1.9(e) in that it constitutes:

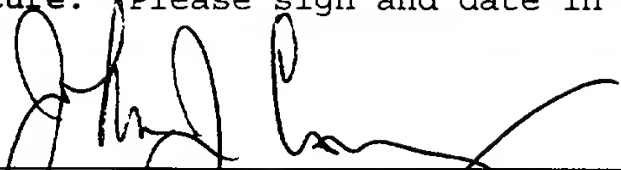
1. ☐ a university or other institution of higher education located in any country; or
2. ☐ an organization of the type described in Section 501(c)(3) of the Internal Revenue Code of 1954 (26 USC 501(c)(3)) and exempt from taxation under Section 501(a) of the Internal Revenue Code (26 USC 501(a)); or
3. ☐ any nonprofit scientific or educational organization qualified under a nonprofit organization statute of a state of the United States (35 USC 201(i)); or
4. ☐ any nonprofit organization located in a foreign country which would qualify as a nonprofit organization under paragraphs (e)(2) or (3) of Rule 1.9 if it were located in the United States.

The undersigned acknowledge(s) the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate (37 CFR 1.28(b)).

Attorney

Docket No.: DAVOX-144XX

The below-signing individual(s) hereby declare(s) that (he, she, they) are authorized to execute this statement on behalf of the small entity; that all statements made herein of (his, her, their) own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

Name of Small Entity: (Independent Inventor/Small Business/Nonprofit)	
Davox Corporation	
Address of Small Entity: (Street, City, State or Country, Zip Code)	
6 Technology Park Drive Westford MA 01886	
0	
Name of Person Signing: (Small Business/Nonprofit)	
John J. Connolly	
Title of Person Signing: (Small Business/Nonprofit)	
Vice President - Finance	
Signature: (Please sign and date in permanent ink.)	Date signed:
X 	X 4/8/98